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FLESHNER & KIM, LLP  
P.O. BOX 221200  
CHANTILLY, VA 20153

EXAMINER

BARQADLE, YASIN M

ART UNIT PAPER NUMBER

2153

DATE MAILED: 12/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/987,098

Applicant(s)

OH, SUK SANG

Examiner

Yasin M. Barqadle

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 10/13/2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-5, 7-13, 15-19, 21-25 and 27-36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-13, 15-19, 21-25 and 27-36 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_

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**Response to Amendment**

1. The amendment filed on October 13, 2006 has been fully considered but are not persuasive.

Claims 1-5, 7-13, 15-19, 21-25 and 27-36 are presented for examination.

**Response to Amendment**

Applicant in essence argues that Watanuki "does not teach that the mobile node sends a notification message to the first foreign agent if the mobile node is moved from a first foreign network to a second foreign network." Page 12 of the remarks. Examiner notes that Watanuki for example teaches "The IPv4/v6 mobile node 106 includes an IPv4/v6 movement processing portion 114 for executing various processings when the node moves to another network, a movement detection processing portion 115 for executing a detection processing which detects the movement to another network, an IPv4 movement registration processing portion 116 for executing a movement notification processing which notifies the movement of the node to another IPv4 network or to an IPv4/v6 network, to the IPv4 mobile agent-a 105..." Therefore, Watanuki clearly teaches the mobile node processes

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among other things movement registration and movement notification processing which notifies the movement of the node to another foreign network. (Col. 9, lines 15-40).

Applicant argues features relating to checking whether a notification message has been received in the mobile node as claimed in claim 7 and 15. Examiner notes Dommety teaches (mobile node moving from a first FA to a second FA and forwarding the packets belonging to the node in its new location. This implies checking and sending information belonging to the mobile node at the new location of the mobile node as learned through the HA which receives bindings Col. 2, lines 1-48; col. 7, 9-40 and col. 11, lines 26-44).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

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As per claims 1, 3,5,7, 8-10,12,14-15,17, 19, 21-24, 27-29 and 31-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dommety et al U.S. Pat. No. (6,510,144) hereinafter "Dommety" in view of Watanuki et al US Patent Number (6172986), hereinafter "Watanuki ".

As per claim 1, Dommety et al teach a mobile Internet Protocol (IP) system (fig. 1, system 2 and abstract), comprising:

a mobile node (mobile node 6, fig. 1) initially linked to a first foreign network (mobile node is linked to WAN 4, through elements 12 and 14. See fig. 1, FA 10 and R2, col. 1, lines 3-65 and col. 5, lines 57 to col. 6, line 48);

a home agent receiving a set of data packets, which are supposed to be transmitted to said mobile node, said home agent being included in a home network of said mobile node (HA 8, receives data packets from FA 10 and Node 18. See fig. 1, MN (2) and col. 5, lines 57 to col. 6, line 48); and

a first foreign agent initially receiving said packets from said home agent and storing them in a buffer (see the steps in figs. 2A-B and col. 5, lines 57 to col. 6, line 56) and additionally sending said stored packets to a second foreign agent included in a second foreign network if said mobile node is moved to said second foreign network, said first foreign

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agent being included in said first foreign network (col. 3, lines 4-49 col. 5, lines 57 to col. 6, line 56; col. 7, 9-49 and col. 11, lines 26-44).

Although Dommety shows substantial features of the claimed invention, he does not explicitly show a mobile node sending a notification message to a foreign agent if a mobile node is moved to another foreign agent.

Nonetheless, this feature is well known in the art and would have been an obvious modification of the system disclosed by Dommety, as evidenced by Watanuki USPN. (6172986).

In analogous art, Watanuki whose invention is about a mobile node moving from a first IP (Internet Protocol) network to a second IP network in a network system. The system includes an IPv4 movement registration processing portion for executing a movement notification processing which notifies the movement of the node to another IPv4 network or to an IPv4/v6 network (foreign network), discloses, "FIG. 30 shows the data structure of the IPv6 movement registration request message transmitted by the IPv4/v6 mobile node 1806. As shown in the drawing, the IPv6 movement registration request message 3000 includes a IPv6 header 3001 and a IPv6 data 3004. The IPv6 header 3001 includes a foreign IPv6 address 3002 and a home IPv6 address. The IPv6 address of the home IPv6 mobile agent 1807 is set to the home

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IPv6 address 3002, and the IPv6 address which the IPv4/v6 mobile node 1806 acquires in the visiting network is set to the home IPv6 address 3003. The IPv6 data 3004 includes the IPv6 address 3005 as the IPv6 address of the node itself transmitting this message and the foreign IPv6 address 3006 as the IPv6 address which the mobile node acquires afresh in the visiting network." Col. 24, lines 24-40). Watanuki further teaches, "Incidentally, the IPv4/v6 mobile node 1806 always transmits after its movement the packet to the foreign IPv4 mobile agent 3208 in accordance with the processing procedure of the Mobile IPv4. Therefore, the foreign IPv4 mobile agent 3208 can receive the IPv4 movement registration request message 4200" [col. 9, lines 15-40; Col. 36, lines 65 to col. 37, line 12 and col. 41, lines 5-26].

Giving the teaching of Watanuki, a person of ordinary skill in the art would have readily recognized the desirability and the advantage of modifying Dommety by employing the system of Watanuki so that the location of the mobile node in the network is known as it move from one network to another.

As per claim 3, Dommety et al teach the mobile IP system of claim 1, wherein said first foreign agent additionally sends said stored packets to said mobile node if said mobile node

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continues to be linked to said first foreign network (fig. 1, col. 5, lines 57 to col. 6, line 42 and col. 7, lines 4-49).

As per claim 5, Dommety et al teach the mobile IP system of claim 1, wherein said buffer is coupled to said first foreign agent (col. 5, lines 29-66).

As per claim 7, Dommety et al as modified teach the mobile IP system of claim 1, wherein said first foreign agent determines whether said mobile node is moved to said second foreign network by checking whether said notification message is received from said mobile node (the receiving mobile node moves from a first FA to a second FA col. 2, lines 1-48; col. 7, 9-40 and col. 11, lines 26-34).

As per claim 8, this is a method claim with similar limitations as claims 1. Therefore, it is rejected with the same rationale.

As per claim 9, Dommety et al teach the method of claim 8, wherein said first buffer is coupled to said first foreign agent (col. 5, lines 29-66).

As per claim 10, Dommety et al teach the method of claim 8, wherein said second buffer is coupled to said second foreign



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agent (Fig. 1 and col. 5, lines 29 to col. 6, line 25).

As per claim 12, Dommetry et al teach the method of claim 8 further comprising a step of transmitting said packets stored in said first buffer to said mobile node if said mobile node continues to be linked to said first foreign network (fig. 1, col. 5, lines 57 to col. 6, line 42 and col. 7, lines 4-49).

As per claim 15, Dommetry in view of Watanuki teach the data routing method of a first foreign agent in a mobile Internet Protocol (IP) network, the method comprising the steps of:

(a) receiving a set of data packets and storing them in a buffer (HA 8, receives data packets from FA 10 and Node 18. See fig. 1, MN (2) and col. 5, lines 57 to col. 6, line 48);

(b)

determining a mobile node to which said packets are supposed to be transmitted (col. 2, lines 1-48 and col. 5, lines 57 to col. 6, line 48);

(d)

determining if said determined mobile node is moved to the second foreign network having a second foreign agent (col. 8, lines 3-58 and col. 9, lines 6-46); and

(e) transmitting said packets stored in said buffer to said second foreign agent if said mobile node is moved to said second

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foreign network (col. 7, lines col. 3, lines 4-49 and col. 9, lines 6-44).

Regarding the sending notification message from a mobile node to a foreign agent if the mobile nodes move from a foreign network and said notification message has been received by the first foreign agent, see Watanuki as rejected in claim 1 above.

As per claim 17, Dommetty et al teach the method of claim 15 further comprising a step of transmitting said packets stored in said buffer to said mobile node if said mobile node continues to be linked to said first foreign network (fig. 1, col. 5, lines 57 to col. 6, line 42 and col. 7, lines 4-49).

As per claim 19, Dommetty et al teach the method of claim 15, wherein said buffer is coupled to said first foreign agent (col. 5, lines 29-66).

As per claim 21, Dommetty et al in view of Watanuki teach the method of claim 15, wherein said determination step (c) is performed by checking whether said notification message is received from said mobile node (the receiving mobile node moves from a first FA to a second FA col. 2, lines 1-48; col. 7, 9-40

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and col. 11, lines 26-44).

As per claim 22, Dommetry et al teach the method of claim 20, wherein an IP address of said second foreign agent is indicated in said notification message (col. 2, lines 1-48 and col. 11, lines 26-44).

As per claim 23, Dommetry et al teach a mobile Internet Protocol (IP) method (fig. 1, system 2 and abstract), comprising:

receiving packets at a first foreign agent associated with a first foreign network storing said packets in a first buffer; (HA 8, receives data packets from FA 10 and Node 18. See fig. 1, MN (2) and col. 5, lines 57 to col. 6, line 48; col. 7, lines 4-24. See also col. 9, lines 11-17); and

sending said packets in said first buffer to a second foreign agent associated with second foreign network, (col. 7, lines col. 3, lines 4-49).

Regarding the sending notification message from a mobile node to a foreign agent if the mobile nodes move from a foreign network, see the rejection in claim 1 above.

As per claim 24, Dommetry et al teach the method of claim 23, further comprising storing said packets in a second buffer

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associated with said second foreign agent (buffering and triggering are performed by any foreign agent or the mobile node itself. It may be distributed over several nodes or routes Fig.

1 and figs. 2A-B and col. 5, lines 29 to col. 6, line 25).

As per claim 27, Dommetry et al teach the method of claim 23, further comprising:

sending said packets to a home agent (HA 8, receives data packets from FA 10 and Node 18. See fig. 1, MN (2) and col. 5, lines 57 to col. 6, line 48); and

sending said packets from said home agent to said first foreign agent (fig. 1 and figs 2A-B col. 3, lines 4-49 col. 5, lines 57 to col. 6, line 56; col. 7, 9-49 and col. 11, lines 26-44).

As per claim 28, Dommetry et al teaches the method of claim 1, wherein the home agent comprises a router of the home agent network of the mobile node (Fig. 1, R1)

As per claim 29, Dommetry et al teach the method of claim 1, wherein the mobile node further registers to the home agent if the mobile node is moved to the second foreign network (col. 5, lines 57 to col. 6, line 48. see registration diagram shown in fig.1).

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As per claim 31-36, Watanuki et al teach the method of claim 1, wherein the notification message includes an IP address of the mobile node, an IP address of the first foreign agent and care-of-address (COA) of the mobile node (col. 24. line 24-40. See figs 30-31 and 42).

Claims 2,4,11,13,16 18 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dommetty et al, U.S. Pat. No. (6,510,144) in view of Watanuki and further in view of Miller et al U.S. Pat. No. (6247058)

As per claims 2,4,11,13,16,18, 25 and 30, Although Dommetty and Watanuki show substantial features of the claimed invention, including overwriting old update information with newly received update information, they do not explicitly show deleting stored packets after sending the stored packets

Nonetheless, this feature is well known in the art and would have been an obvious modification of the system disclosed by Dommetty and Watanuki, as evidenced by Miller et al USPN. (6247058).

In analogous art, Miller et al whose invention is about a network device receiving packets from a first network segment, time stamps the packets as they arrive, and transmits the

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packets to a second network segment. Packets are stored in a buffer memory where they are discarded after certain period of time to make a room for an arriving packet (abstract and col. 8, lines 22-35. See also col. 12, lines 29-37). Giving the teaching of Miller et al, a person of ordinary skill in the art would have readily recognized the desirability and the advantage of modifying Dommetty and Watanuki by employing the system of Miller et al in order conserve network bandwidth and to enhance the efficient use of buffer memory (abstract and col. 12, lines 29-49).

As per claim 30, this claim includes limitations taught in claims 1 and 25 as shown above. Therefore, it is rejected with the same rationale.

### Conclusion

2. **ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS**

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of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

The prior made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yasin Bargadle whose telephone number is 571-272-3947. The examiner can normally be reached on 9:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Burgess can be reached on 571-272-3949. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703-746-7238 for After Final communications.


Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either private PAIR or public PAIR system. Status information for unpublished applications is available through private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

YB

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RUPAL DHARIA  
SUPERVISORY PATENT EXAMINER